

Vienna Instruments
Solo Download Instruments
Contrabass
Trombone
Full Library

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Introduction

Welcome to the Vienna Symphonic Library, and thank you for purchasing one of our Solo Download Instruments! This document contains the mapping information for the "Full" version of the Vienna Instruments Contrabass Trombone. You will find in it a comprehensive survey of the articulations/Patches content, a listing of abbreviations, and the mapping list proper which gives details for every Patch, Matrix, and Preset.

"Full" Library

As opposed to the "Standard" versions of our Solo Download Instruments, the "Full" versions are identical with the corresponding instruments of a DVD Collection, i.e., they contain exactly the same samples, Patches, Matrices and Presets as the latter without any restrictions.

Installing a Download Instrument's Full version copies that instrument's sample content to a separate folder on your hard disk, so that it is not necessary to keep its Standard version installed – you may either delete it from your hard disk or at least remove it from the Directory Manager's list of activated instruments. In the Vienna Instruments Browser, the path of the Full version will be the same as that of the corresponding DVD Instrument, so that you can still see both versions as separate entries if you keep the Standard version installed.

Data paths and Patch name conventions

Since the Full versions of Download Instruments conform to the corresponding DVD Instruments, the data paths in your Vienna Instruments browser will be different than those of Standard Download or Special Edition Instruments. For instance, the path of the Standard Download Library of Flute 1 is "02D Flute-1", and all Patches can be found in this folder regardless of the articulation group they belong to. The Patch number is also marked with a "D" so that you immediately know it is a Download Instrument. In the Vienna Special Edition, Flute 1 is located in the folder "11 Flutes" together with the other flutes. Here, the Patch number is marked with an "S". The Full Download of Flute 1 is located in the subfolder "32 Flute" of the section "Woodwind Patches", which again contains subfolders grouping the Patches according to type, e.g., "01 SHORT + LONG NOTES", "02 DYNAMICS", etc. Patch names of the Full Download Library may differ from the corresponding ones of the Standard Download Library.

While Full Download Instruments contain all articulations of the corresponding DVD Instruments, their Patches are not divided into Standard and Extended content. The list of articulations further down which gives a summary of the Library's contents.

Special Patch configurations which sometimes are part of a Standard Download Instrument may be found in a reserved folder called "98 RESOURCES" in the Full Instrument. E.g., Flute 1 Standard contains the Patch "22D FL1 legato-sus"; in Flute 1 Full, this Patch is called "01 FL1_perf_leg_sustain" and is located in the Resources' subfolder "03 Perf Speed variation". (Apart from that, it also contains more samples.) Other articulations that can be found in the Resources folder are isolated dynamics repetitions in the subfolder "01 Perf Rep dyn" – e.g., the five repetitions of a legato crescendo, divided into separate Patches – and extracted velocity layers of sustained notes in the subfolder "02 Long Notes – Single Layer".

Patch information

The Patch information includes articulation type, playing range, number of samples used, RAM requirements, the number of velocity layers and alternations, AB switching possibilities, etc., as well as Patch specific information if necessary.

Where the type of articulation requires a special mapping (e.g., natural harmonics patches), the mapping layout will be shown in a detailed graphic.

Major and minor runs are always mapped to the keys of their scale, as are **arpeggios** to the keys of the broken chord played. **Grace notes** and **mordents** are mapped to their target note, i.e., the note the articulation ends with. Due to their nature, all **upward and downward articulations** (e.g., fixed glissandos and octave runs) have different mapping ranges – the upward movements ending the involved interval below the Patch's upper mapping range, while downward movements end the interval above its lower mapping range. (Please note that not all of the articulations mentioned above may be contained in your Collection.)

The Patch information also lists a Patch's velocity layers in detail. Velocity layer switches generally are the same for patches with the same number of layers but may occasionally be adapted to the instrument's requirements:

Layers	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Layer 6
2	1–88	89–127				
3	1–55	56–88	89–127			
4	1–55	56–88	89–108	109–127		
5	1–24	25–55	56–88	89–108	109–127	
6	1–24	25–55	56–88	89–108	109–118	119–127

Interval performances

Interval performances are one of the outstanding features of our Vienna Instruments. They allow you to play authentic legato without any programming tricks. In our Silent Stage, all intervals from minor second to the octave were recorded for every instrument – up and down, of course; that makes 24 interval samples per note for one velocity alone! When you load an interval performance Patch and play a line on your keyboard, the software automatically joins the right samples with their interval transitions again, and you hear a perfect legato. By the way, this technique is not only used for legato but also for other articulations like the strings' portamento, marcato, or détaché and spiccato articulations.

Interval performances also contain at least two legato repetitions for every note which alternate automatically whenever you strike a key more than once. There also are preconfigured thresholds for legato and repetition notes: The legato threshold – i.e., the maximum break between notes where legato is played – is 50 ms. Otherwise, a sustained starting note will sound so that you can easily start a new phrase without leaving the legato Patch. For note repetitions, the threshold is 200 ms: a break up to that duration will yield a legato repetition; if the break is longer, a new starting note. But of course, it's mingling legato with other articulations which makes a piece really come alive.

Due to their nature, all interval performances are monophonic; otherwise, the software would have to be able to decide which source note belongs to which target note. To circumvent this, you can open two VI instances of the same instrument on separate MIDI tracks without any additional strain on your RAM.

Note: the Vienna Instruments PRO player software also allows you to play polyphonic Interval performances.

Another variety of interval performance you will come across is the "perf-leg_sus" Patch. These Patches also contain normal legatos, only the target note of each interval is crossfaded into a looped sustain. They can be used for slower pieces with long notes; however, you should use them with circumspection, since plain legatos sound more lively because they not only render the interval transitions as they were played, but also have different target samples for every interval instead of the same sustained note: When you play, e.g., c–e and then c#–e with normal legato, you will get two different "e" tones; with sus-legato you won't.

Matrix information

Each Matrix listing contains information regarding the Patches used for the Matrix, the number of horizontal and vertical dimensions, and switching properties. A mapping table shows the Cell positions for each of the Matrix' Patches.

A/B switching normally is set to A0 for upward/crescendo, and B0 for downward/diminuendo. However, some bass instruments go below that range so that the A/B keys have to be adapted accordingly. For example, the A/B switches for double bass are A0 and A#0 because the instrument's lower range extends to B0.

In order to facilitate working with **MIDI controller switches** like the Modulation wheel, the switching positions are not distributed equally across the controller range if they control more than two Matrix rows or columns; generally, the switching range will be narrower at the extreme positions because they are easy to set, and wider in the middle where it is harder to find the desired setting.

Speed controller switches naturally are adjusted to the Patches involved, and have been tested carefully as to their playability. However, if you find that they do not fit your playing, or want to try out other settings, you can change this as well as any other controller's settings at the **Control edit** page, and save the result in your Custom Matrix folder.

Preset information

The Preset information lists the Matrices used in the Preset as well as its keyswitches. All other information can be gathered from the Matrix and Patch listings, so there's not really much to say here. Please note that the Matrices of a Preset can also be switched with MIDI Program Changes (VI: 101–112; VI PRO: 1–127) instead of keyboard notes, and if you like to keep your keyboard free for playing instead of switching, you can disable Preset keyswitching and only use MIDI Program Changes. Vienna Instruments PRO also allows you to define a MIDI Control for Preset keyswitching.

Abbreviations

Here's a list of abbreviations in Patch names, which will help you to determine a Patch's content even without the help of the Vienna Instruments browser. Please note that not all of the abbreviations may occur in the manual on hand.

Abbreviation	Meaning	Abbreviation	Meaning
+	faster articulation (runs and arpeggios)	lo	long
150, 160, ...	150, 160, ... BPM (beats per minute)	ma	major
1s, 2s, ...	tone length 1 sec., 2 sec., ...	marc	marcato
acc	accelerando	me	medium
all	combination of all Patches of a category	mi	minor
arp	arpeggio	mord	mordent
blare	"blared" tones (horn)	mu	muted
cre	crescendo	muA, muB	muted, variation A/B
dim	diminuendo	nA	normal attack
dm	diminished (arpeggios)	noVib	without vibrato
dyn	dynamics (crescendo and diminuendo)	perf-rep	repetition performance
dyn5, dyn9	dynamics, 5/9 repetitions	por	portato
fa	fast	run	octave run
faT	fast triplets	sA	soft attack
fA	fast attack	sl	slow
fA_auto	attack automation (normal/fast attack)	sta, stac	staccato
fast-rep	fast repetitions	sto	stopped (horns)
flatter	flutter tonguing	str	strong
fx	effect sound	sus	sustained
gliss	glissando	T	triplets
hA	hard attack	tune	"tuning in" articulation
leg	legato	UB	upbeat
li	light	UB-a1, -a2	1, 2 upbeats
		v1, v2 ...	1st, 2nd, ... variation
		Vib	with (medium) vibrato
		Vib-progr	progressive vibrato
		XF	cell crossfade Matrix

Articulations

58 Contrabass trombone	
01 SHORT + LONG NOTES	Staccato Portato medium, normal and marcato Portato long Sustained
02 DYNAMICS	Light crescendo and diminuendo, 1, 1.5, and 2 sec. Medium crescendo and diminuendo, 3, 4, and 6 sec. Strong crescendo and diminuendo, 3 and 4 sec. pfp, 4 and 6 sec. Fortepiano, sforzato, sforzatissimo
03 FLATTER + FX	Flutter tonguing normal and crescendo Arpeggios, up/down and down/up Duophonic playing, var. A and B
10 PERF INTERVAL	Legato, normal and with sustain crossfading Marcato
11 PERF REPETITION	Portato slow and fast, normal and dynamics Staccato
12 UPBEAT REPETITION	1–3 upbeats, 80–150 BPM
13 GLISSANDI	Performance glissandos, minor 2nd to major 3rd Fixed glissandos, minor 2nd to 4th, up and down

The orchestra

There are several ways of setting up an orchestra, depending on the era of the piece played, the type of the piece and the instruments it requires, and even on the preference of the conductor. The figure below shows one of the more common setups, which can be taken as a guideline for mixing a composition, properly positioning the instruments in the stereo field and adding reverb according to the size of the concert hall you want your piece to be played in.



- 1 1st and 2nd violin
- 2 Viola
- 3 Cello
- 4 Double bass
- 5 Harp
- 6 Concert flute, piccolo
- 7 Oboe, English horn
- 8 Clarinet, bass clarinet

- 9 Bassoon, contrabassoon
- 10/11 Trumpet
- 12/13 Horn
- 14/15 Trombone
- 16 Tuba
- 17 Timpani
- 18 Drums, cymbals
- 19 other percussion instruments

Pitch

For designating pitch, the Vienna Symphonic Library uses International Pitch Notation (IPN), which was agreed upon internationally under the auspices of the Acoustical Society of America. In this system the international standard of A=440 Hz is called A4 and middle C is C4. All pitches are written as capital letters, their respective octave being indicated by a number next to it. The lowest C on the piano is C1 (the A below that is A0), etc.

You can tune your Vienna Instruments to other players, or adjust it to tunings of earlier musical periods by setting the Perform page's Master Tune option within a range of 420 to 460 Hz.

58 Contrabass trombone

The instrument

Description

The contrabass trombone was created to provide sufficient volume for a stable and supportive foundation to the four-part trombone section while blending with its homogeneous overall sound, which was something the tuba could not do. It is used principally for the great octave and the contraoctave.

Range and notation

The contrabass trombone has a range of Ab0–C5. Music for the contrabass trombone is written in bass clef with no transposition. The notation in the upper register is in tenor clef.

Sound characteristics



Hard, metallic, penetrating, powerful, dark, taut, intense, dramatic, heroic, eruptive.

It sounds more intense than the bass trombone. Compared to the tuba the contrabass trombone sounds far more concise, definite and metallic. The sound has a dark and metallic timbre and ranges from a melodious and subdued piano to massive explosions. It is the notes of the low register that are most often used in the orchestra. The upper register (C#4–C5) corresponds to the tenor trombone's pitch. At this pitch the contrabass trombone is more powerful.

Combination with other instruments

The instrument plays the deepest part (4th trombone) in the four-part trombone section, making it possible in orchestral writing to write for a four-part trombone section and include lower pitches. Functions include fundamental bass, thematic tasks, doubling an octave below.

Patches

01 SHORT + LONG NOTES		Range: A0–D4		
01 CTB_staccato		Samples: 234	RAM: 14 MB	
Staccato 3 velocity layers 4 Alternations				
02 CTB_portato_medium		Samples: 240	RAM: 15 MB	
Portato, short medium 3 velocity layers 4 Alternations				
03 CTB_portato_medium_marc		Samples: 156	RAM: 9 MB	
Portato, medium, marcato 2 velocity layers 4 Alternations				
04 CTB_portato_long		Samples: 238	RAM: 14 MB	
Portato, long 3 velocity layers Release samples 2 Alternations				
11 CTB_sus		Samples: 238	RAM: 14 MB	
Sustained 3 velocity layers Release samples				
02 DYNAMICS		Range: A#0–D4		
01 CTB_dyn-li_1s		Samples: 222	RAM: 13 MB	
Light crescendo and diminuendo, 1 sec. 3 velocity layers AB switch: crescendo/diminuendo				
02 CTB_dyn-li_1'5s		Samples: 222	RAM: 13 MB	
Light crescendo and diminuendo, 1.5 sec. 3 velocity layers AB switch: crescendo/diminuendo				
03 CTB_dyn-li_2s		Samples: 222	RAM: 13 MB	
Light crescendo and diminuendo, 2 sec. 3 velocity layers AB switch: crescendo/diminuendo				

11 CTB_dyn-me_3s		Samples: 74	RAM: 4 MB
Medium crescendo and diminuendo, 3 sec. 1 velocity layer AB switch: crescendo/diminuendo			
12 CTB_dyn-me_4s		Samples: 74	RAM: 4 MB
Medium crescendo and diminuendo, 4 sec. 1 velocity layer AB switch: crescendo/diminuendo			
13 CTB_dyn-me_6s		Samples: 74	RAM: 4 MB
Medium crescendo and diminuendo, 6 sec. 1 velocity layer AB switch: crescendo/diminuendo			
21 CTB_dyn-str_3s		Samples: 74	RAM: 4 MB
Strong crescendo and diminuendo, 3 sec. 1 velocity layer AB switch: crescendo/diminuendo			
22 CTB_dyn-str_4s		Samples: 74	RAM: 4 MB
Strong crescendo and diminuendo, 4 sec. 1 velocity layer AB switch: crescendo/diminuendo			
31 CTB_pfp_4s	Range: A0–D4	Samples: 37	RAM: 2 MB
Crescendo-diminuendo, 4 sec. 1 velocity layer			
32 CTB_pfp_6s	Range: A0–D4	Samples: 37	RAM: 2 MB
Crescendo-diminuendo, 6 sec. 1 velocity layer			
41 CTB_fp	Range: A0–D4	Samples: 39	RAM: 2 MB
Fortepiano 1 velocity layer 2 Alternations			
42 CTB_sfz	Range: A0–D4	Samples: 39	RAM: 2 MB
Sforzato 1 velocity layer 2 Alternations			
43 CTB_sffz	Range: A0–D4	Samples: 39	RAM: 2 MB
Sforzatissimo 1 velocity layer 2 Alternations			

03 FLATTER + FX

01 CTB_flatter Flutter tonguing 1 velocity layer Release samples	Range: A1–C5	Samples: 70	RAM: 4 MB
02 CTB_flatter_cre Flutter tonguing, crescendo 1 velocity layer	Range: A1–C5	Samples: 35	RAM: 2 MB
11 CTB_arpeggio Effects: Arpeggios, up/down and down/up 1 velocity layer AB switch: up/down	Range: F2–F3	Samples: 24	RAM: 1 MB
12 CTB_duophonic-A Effects: Duophonic playing (tone and voice), variant A 1 velocity layer	Range: C2–G#3	Samples: 19	RAM: 1 MB
13 CTB_duophonic-B Effects: Duophonic playing, variant B 1 velocity layer	Range: C2–C3	Samples: 11	RAM: 1 MB

10 PERF INTERVAL**Range: A0–C4**

01 CTB_perf-legato Legato 2 velocity layers Release samples		Samples: 951	RAM: 59 MB
02 CTB_perf-legato_sus Legato Sustain crossfading 2 velocity layers Release samples		Samples: 972	RAM: 60 MB
03 CTB_perf-marcato Marcato 2 velocity layers Release samples		Samples: 974	RAM: 60 MB

11 PERF REPETITION

01 CTB_perf-rep_por-sl	Range: A0–D4	Samples: 342	RAM: 21 MB
Repetition performances: Portato, slow 2 velocity layers			
02 CTB_perf-rep_por-fa	Range: C1–D4	Samples: 306	RAM: 19 MB
Repetition performances: Portato, fast 2 velocity layers			
03 CTB_perf-rep_sta	Range: A1–D4	Samples: 234	RAM: 14 MB
Repetition performances: Staccato 2 velocity layers			
11 CTB_perf-rep_dyn5_por-sl	Range: C1–D4	Samples: 170	RAM: 10 MB
Repetition performances: Portato dynamics, slow, 5 repetitions 1 velocity layer AB switch: crescendo/diminuendo			
12 CTB_perf-rep_dyn5_por-fa	Range: C1–D4	Samples: 170	RAM: 10 MB
Repetition performances: Portato dynamics, fast, 5 repetitions 1 velocity layer AB switch: crescendo/diminuendo			

12 UPBEAT REPETITION**A Single Upbeat**

01 CTB_UB-a1_80 (90/100)	Range: A1–D4	Samples: 50	RAM: 3 MB
1 upbeat, 80–100 BPM 2 velocity layers			
04 CTB_UB-a1_110 (120/130/140/150)	Range: A0–D4	Samples: 74	RAM: 4 MB
1 upbeat, 110–150 BPM 2 velocity layers			

B Double Upbeats**Range: A0–D4**

01 CTB_UB-a2_80 (90/100/110/120/130/140/150)	Samples: 74	RAM: 4 MB
2 upbeats, 80–150 BPM 2 velocity layers		

C Triple Upbeats**Range: A0–D4****01 CTB_UB-a3_80 (90/100/110/120/130/140/150)****Samples: 74****RAM: 4 MB**

3 upbeats, 80–150 BPM

2 velocity layers

13 GLISSANDI**01 CTB_perf-gliss****Range: A0–G3****Samples: 450****RAM: 28 MB**

Glissando, minor 2nd to major 3rd

1 velocity layer

Release samples

11 CTB_gliss-1**Range: A0–D#3****Samples: 54****RAM: 3 MB**

Glissando, minor 2nd

1 velocity layer

AB switch: up/down

12 CTB_gliss-2**Range: A0–E3****Samples: 46****RAM: 2 MB**

Glissando, major 2nd

1 velocity layer

AB switch: up/down

13 CTB_gliss-3**Range: A0–E3****Samples: 30****RAM: 1 MB**

Glissando, minor 3rd

1 velocity layer

AB switch: up/down

14 CTB_gliss-4**Range: A0–F#3****Samples: 14****RAM: 1 MB**

Glissando, major 3rd

1 velocity layer

AB switch: up/down

15 CTB_gliss-5**Range: A2–G3****Samples: 2****RAM: 1 MB**

Glissando, 4th

1 velocity layer

AB switch: up/down

98 RESOURCES

Isolated dynamics repetitions: Portato
Single layer long notes

01 Perf Rep dyn Range: C1–D4

01 CTB_rep_cre5_por-1 (2/3/4/59)

Samples: 17

RAM: 1 MB

Extracted repetitions: Portato, crescendo, 1st to 5th note
1 velocity layer

01 CTB_rep_dim5_por-1 (2/3/4/59)

Samples: 17

RAM: 1 MB

Extracted repetitions: Portato, diminuendo, 1st to 5th note
1 velocity layer

02 Long Notes - Single Layer Range: A0–D4

01 CTB_sus_p

Samples: 79

RAM: 4 MB

Sustained, piano
1 velocity layer
Release samples

02 CTB_sus_mf

Samples: 79

RAM: 4 MB

Sustained, mezzoforte
1 velocity layer
Release samples

03 CTB_sus_f

Samples: 80

RAM: 5 MB

Sustained, forte
1 velocity layer
Release samples

99 RELEASE

This section contains release samples for various patches of the other sections. Please do not try to load them into a Vienna Instruments matrix – you will not be able to hear anything when you try to play them.

Matrices

Matrix - LEVEL 1

L1 CTB Articulation Combi

Samples: 969 RAM: 60 MB

Single note articulations

Staccato, portato medium, sustained, crescendo-diminuendo 4 and 6 sec., fortissimo and sforzato, flutter tonguing normal and crescendo

Matrix switches: Horizontal: Keyswitches, C6–E6 Vertical: Modwheel, 2 zones

	C6	C#6	D6	D#6	E6
V1	staccato	sustained	pfp 4s.	fp	flutter
V2	port. medium	sustained	pfp 6s.	sfz	flutter cres.

L1 CTB Perf-Legato Speed

Samples: 972 RAM: 60 MB

Interval performances

Legato with sustain crossfading and normal

Speed controller

Matrix switches: Horizontal: Speed, 2 zones

	H1	H2
legato	sus-XF	normal

L1 CTB Perf-Repetitions Combi

Samples: 648 RAM: 40 MB

Repetition performances

Portato slow and fast

Matrix switches: Vertical: Modwheel, 2 zones

	repetitions
V1	portato slow
V2	portato fast

Matrix - LEVEL 2 A - Advanced

01 CTB Perf-Universal

Samples: 1827 RAM: 114 MB

Interval performances

Legato with sustain crossfading and normal

Marcato

Speed controller

Matrix switches: Horizontal: Speed, 2 zones

	H1	H2
legato	sus-XF	normal
marcato	%	%

02 CTB Short+Long notes - All**Samples: 985 RAM: 61 MB**

Single notes

Staccato, portato medium normal and marcato, portato long, and sustained

Matrix switches: Horizontal: Keyswitches, C6–E6

	C6	C#6	D6	D#6	E6
V1	staccato	port.med. normal	port.med. marcato	port.long	sustained

Matrix - LEVEL 2 B - Standard**11 CTB Perf-Legato Speed****Samples: 972 RAM: 60 MB**

Interval performances

Legato with sustain crossfading and normal

Speed controller

Matrix switches: Horizontal: Speed, 2 zones

	H1	H2
legato	sus-XF	normal

12 CTB Dynamics - Small**Samples: 339 RAM: 21 MB**

Dynamics

Medium crescendo and diminuendo, 3, 4, and 6 sec.

Fortepiano, sforzato, sforzatissimo

Matrix switches: Horizontal: Keyswitches, C6–D6 Vertical: Modwheel, 4 zones

	C6	C#6	D6
dyn.medium	3 sec.	4 sec.	6 sec.
fp	%	%	%
sfz	%	%	%
sffz	%	%	%

13 CTB Dynamics - Large**Samples: 1227 RAM: 76 MB**

Dynamics

Light crescendo and diminuendo, 1, 1.5, and 2 sec.

Medium crescendo and diminuendo, 3, 4, and 6 sec.

Strong crescendo and diminuendo, 3 and 4 sec.

Crescendo-diminuendo, 4 and 6 sec.

Fortepiano, sforzato, sforzatissimo

Matrix switches: Horizontal: Keyswitches, C6–D6 Vertical: Modwheel, 5 zones

	C6	C#6	D6
dyn.light	1 sec.	1.5 sec.	2 sec.
dyn.medium	3 sec.	4 sec.	6 sec.
dyn.strong	3 sec.	4 sec.	4 sec.
ppf	4 sec.	4 sec.	6 sec.
fp/sfz/sffz	fp	sfz	sffz

14 CTB Flatter**Samples: 105 RAM: 6 MB**

Flutter tonguing

Normal, crescendo, and normal/crescendo with Cell crossfading

Matrix switches: Horizontal: Keyswitches, C6–D6

	C6	C#6	D6
flutter	normal	crescendo	Cell XF

15 CTB FX**Samples: 54 RAM: 3 MB**

Effects: Arpeggios, duophonic playing (voice and tone) variation A and B

Matrix switches: Horizontal: Keyswitches, C6–D6

	C6	C#6	D6
V1	arpeggio	duophonic-A	duophonic-B

Matrix - LEVEL 2 C - Repetitions**31 CTB Perf-Repetitions - Combi****Samples: 882 RAM: 55 MB**

Repetition performances

Portato slow and fast, and staccato

Matrix switches: Horizontal: Keyswitches, C6–D6

	C6	C#6	D6
V1	portato slow	portato fast	staccato

32 CTB Perf-Repetitions - Speed**Samples: 882 RAM: 55 MB**

Repetition performances

Portato slow and fast, and staccato

Speed controller

Matrix switches: Horizontal: Speed, 3 zones

	H1	H2	H3
V1	portato slow	portato fast	staccato

33 BTB Upbeats a1**Samples: 520 RAM: 32 MB**

Repetitions: 1 upbeat, 80–150 BPM

Matrix switches: Horizontal: Keyswitches, C6–G6

	C6	C#6	D6	D#6	E6	F6	F#6	G6
speed/BPM	80	90	100	110	120	130	140	150

34 CTB Upbeats a2**Samples: 592 RAM: 37 MB**

Repetitions: 2 upbeats, 80–150 BPM

Matrix switches: Horizontal: Keyswitches, C6–G6

	C6	C#6	D6	D#6	E6	F6	F#6	G6
speed/BPM	80	90	100	110	120	130	140	150

35 CTB Upbeats a3**Samples: 592 RAM: 37 MB**

Repetitions: 3 upbeats, 80–150 BPM

Matrix switches: Horizontal: Keyswitches, C6–G6

	C6	C#6	D6	D#6	E6	F6	F#6	G6
speed/BPM	80	90	100	110	120	130	140	150

36 CTB Upbeats all**Samples: 1704 RAM: 106 MB**

Repetitions: 1–3 upbeats, 80–150 BPM

Matrix switches: Horizontal: Keyswitches, C6–G6 Vertical: Modwheel, 3 zones

	C6	C#6	D6	D#6	E6	F6	F#6	G6
1 upbeat	80	90	100	110	120	130	140	150
2 upbeats	80	90	100	110	120	130	140	150
3 upbeats	80	90	100	110	120	130	140	150

Matrix - LEVEL 2 E - Keyswitch Vel**71 CTB Portato - cre5****Samples: 115 RAM: 7 MB**

Portato notes: Crescendo, keyswitch velocity

Keyswitches control 5 dynamic steps

Matrix switches: Horizontal: Keyswitches, C1–E1

	C1	C#1	D1	D#1	E1
velocity	1st	2nd	3rd	4th	5th

72 CTB Portato - dim5**Samples: 115 RAM: 7 MB**

Portato notes: Diminuendo, keyswitch velocity

Keyswitches control 5 dynamic steps

Matrix switches: Horizontal: Keyswitches, C1–E1

	C1	C#1	D1	D#1	E1
velocity	1st	2nd	3rd	4th	5th

Presets

CTB VSL Preset Level 1

Samples: 2431 RAM: 151 MB

L1 CTB Perf-Legato Speed
 L1 CTB Articulation Combi
 L1 CTB Perf-Repetitions Combi

Preset keyswitches: C7–D7

CTB VSL Preset Level 2

Samples: 3566 RAM: 222 MB

01 CTB Perf-Universal
 01 CTB Perf-Universal
 L1 CTB Articulation Combi
 31 CTB Perf-Repetitions - Combi
 71 CTB Portato - cre5

Preset keyswitches: C7–E7